United States
Environmental Protection
Agency

Office of Public Affairs
Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604

Illinois Indiana
Michigan
Minnesota
Ohio Wisconsin

Fact Sheet
Vacant Lot Site

000006

North Chicago, Illinois
November 1997

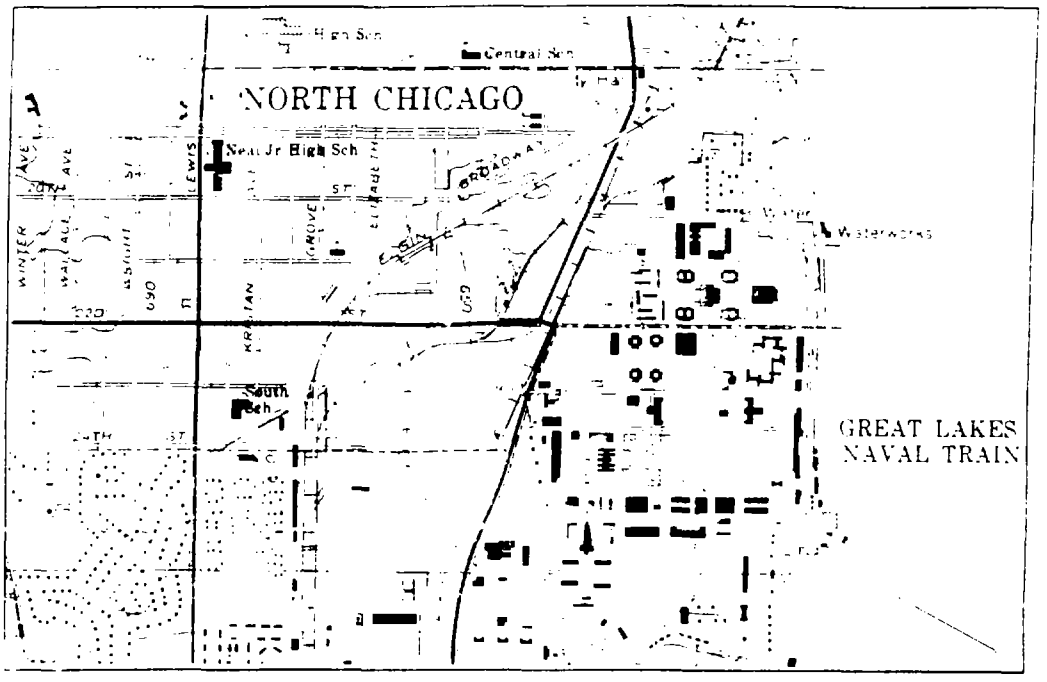


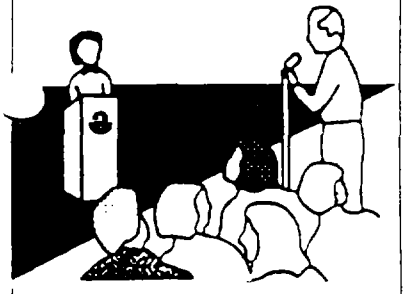
FIGURE 1

Opportunities for Public Involvement

Public Comment Period

U.S. EPA will accept written comments on the recommended alternative presented in the Engineering Evaluation Cost Analysis (EE/CA) for the Vacant Lot site during a 30-day public comment period from November 3 to December 3, 1997. A copy of the EE/CA and other site-related documents are available for review at:

North Chicago Public Library
2100 Argonne Drive
North Chicago, Illinois 60064



Public Meeting

The U.S. EPA will hold a public meeting to explain and answer questions about the EE/CA for the Vacant Lot site. Oral and written comments will be accepted at the meeting, which will be held:

Wednesday November 12, 1997
7:00 pm - 9:00 pm
North Chicago Public Library
2100 Argonne Drive
North Chicago, Illinois
(847) 689-0125

Introduction

This Fact Sheet summarizes the removal action alternatives that have been considered by the United States Environmental Protection Agency (U.S. EPA) for cleanup of hazardous contamination at the Vacant Lot Superfund site. The alternatives were evaluated in an Engineering Evaluation/Cost Analysis (EE/CA) Report developed specifically for the Vacant Lot site under the authority of **Superfund**. The purpose of the EE/CA is to evaluate an alternative's effectiveness at abating potential threats posed by contamination present at the site. From the EE/CA, U.S. EPA identified the public health and environmental risks and determined the extent of contamination at the Vacant Lot site. The alternatives in the EE/CA report were evaluated with regard to the estimated amount of contamination present at the site, and the alternative's effectiveness in alleviating the potential health and ecological risks.

The EE/CA report is available in the Administrative Record which is located in the Information Repository, at the North Chicago Public Library, and should be consulted for detailed information on the development and evaluation of the removal action alternatives. Based on the findings as detailed in the EE/CA report, U.S. EPA recommends soil contamination be remediated using excavation and off-site direct disposal of non-hazardous soil, and excavation, stabilization and off-site disposal of hazardous soil at an approved facility.

Words that appear in bold type are defined in a glossary on page 4

Public input on the alternatives and the information supporting these alternatives is an important contribution to the process by which U.S. EPA selects cleanup actions for Superfund sites. Based on new information or public comments, U.S. EPA may modify the recommended alternative or select another alternative presented in this Fact Sheet and/or EE/CA report. The public is encouraged to review and comment on the alternatives U.S. EPA has considered for the removal.

Background

The 6.4-acre site is located in an urban area in North Chicago, Lake County, Illinois, at the northeast corner of Commonwealth Avenue and Martin Luther King, Jr. Drive (22nd Street) (Figure 1, page 1). The site is bordered to the north by the Elgin, Joliet, and Eastern Railroad; to the south by Martin Luther King Jr. Drive; to the east by Fansteel Inc.; and to the west by Commonwealth Avenue. Pettibone Creek originates on-site and flows from north to south through the site. Pettibone Creek drains into Lake Michigan approximately 1 mile downstream from the site. Stockpiles exist on the ground surface in the northern portion of the site and extend to a depth of 3 feet in some areas.

From 1921 to 1936, the site was owned by a smelting company. Reports indicate the site may have been used to store tailing materials from the smelting company operations. In 1936, a railroad company purchased the site. Sometime between 1936 and 1954, the site was purchased by an individual. The individual deposited fill material on the site in order to develop the area as a parking lot. The title to the property is currently held by Northern Trust Bank of Lake Forest, Illinois.

In 1988, a fire occurred in the northern portion of the Vacant Lot site, close to Pettibone Creek. The North Chicago Fire Department responded to the fire. They determined that the fire was caused by the fill material; the warm weather heated the fill material to temperatures that were high enough to ignite nearby brush.

Site Investigations

In June 1988, the Illinois Environmental Protection Agency (IEPA) collected soil samples from the Vacant Lot site. Analysis of these samples revealed the fill material had elevated concentrations of metals, including **lead**, and **volatile organic compounds** (VOCs). Lead was detected at concentrations as high as 12,600 parts per million (ppm); benzo (a) pyrene (which is a VOC) was detected at concentrations as high as 2.4 ppm.

In May 1993, IEPA collected sediment samples from Pettibone Creek, groundwater samples from on-site monitoring wells, and additional soil samples. The sediment samples collected revealed the presence of VOCs, **polynuclear aromatic hydrocarbons** (PAHs), pesticides, **polychlorinated biphenyls** (PCBs), and inorganic compounds (non-carbon based compounds). Analysis of the groundwater samples indicated the presence of VOCs, pesticides, PCBs, and inorganic compounds. The soil samples indicated the presence of metals in excess of U.S. EPA removal action levels.

Summary of Site Risks

U.S. EPA has developed a set of Preliminary Removal Goals (PRGs) for the Vacant Lot site. PRGs are guidelines that establish cleanup goals for removing hazardous contamination on a site. PRGs are calculated using site characteristics, such as site use and population. Based on site-specific risks associated with on-site contamination, the PRG for abating threats posed by lead contamination is 81.6 milligrams per liter (mg/L), the PRG for benzo (a) pyrene is 0.8 mg/L.

A Risk Assessment developed for the Vacant Lot site includes a detailed discussion of the risks to human health and the environment posed by on-site contamination. The risk assessment is included in the EE/CA report and is available for review in the local Information Repository (see the last page of this fact sheet for the location of the Information Repository).

Evaluation of Alternatives

U.S. EPA used three criteria to compare the cleanup alternatives in the EE/CA and to recommend a practical cleanup alternative for the contamination at the Vacant Lot site. The evaluation criteria are:

Effectiveness: This criterion refers to the ability of a cleanup alternative to meet the objectives within the scope of the removal action, especially with regard to the protection of public health and the environment.

Implementability: This criterion considers the technical and administrative feasibility of implementing the cleanup alternative, such as the availability of goods and services.

Cost: This criterion considers estimated capital, operation, and maintenance costs, as well as the present worth cost. Present worth cost is an alternative's total cost over time in terms of today's dollars.

Summary of Alternatives

U.S. EPA recognizes that groundwater and sediment contamination is present at the Vacant Lot site. However, it is not being remediated at this time due to the need to further investigate potential off-site sources of contamination.

In its EE/CA investigation for the Vacant Lot site, U.S. EPA considered seven cleanup alternatives for remediating soil contamination. The EE/CA report also contains detailed cost estimates for the implementation of each alternative. Information regarding each method is available in the EE/CA report.

Soil Cleanup

Alternative 1A and Alternative 1B are U.S. EPA's recommended alternatives for the remediation of contaminated soil at the Vacant Lot site. For evaluating the Excavation and Disposal

Action Alternative, the contaminated soil is classified as hazardous and non-hazardous, based on U.S. EPA regulatory criteria for disposal at landfills. In this process, all the contaminated areas of the site will be excavated and the soil will be staged in hazardous and non-hazardous stock piles prior to disposal

Alternative 1A

Excavation and Disposal are U.S. EPA's recommended alternative for the remediation of non-hazardous soil. The non-hazardous soil contains VOCs, beryllium, and lead concentrations in excess of the established U.S EPA risk based concentrations. However, this soil does not require any stabilization prior to landfilling. Therefore, it will be excavated and staged on site, then directly disposed of at an approved off-site facility

Alternative 1B

Excavation and Disposal are U.S. EPA's recommended alternative for the remediation of hazardous soil. The hazardous soil contains VOCs, beryllium, and lead concentrations in excess of the established U S EPA risk based concentrations The levels of contamination are high enough to require stabilization prior to landfilling. The hazardous material will be stabilized on site and disposed of off site at an approved landfill facility, or stabilized and disposed of off site at an approved landfill facility, based on economic consideration

Alternative 2

No Action: Taking no action continues to pose a direct contact threat due to on-site contamination No action would not stop the migration of contamination This is not considered a viable option by U S EPA

Alternative 3

Natural Attenuation and Institutional Controls: This alternative relies on the tendency of a material to breakdown naturally over time It requires securing the site with a fence posting warning and no trespassing signs and placing limitations on the future uses of the site property Based on existing contamination and data the effectiveness of natural attenuation is considered minimal. As a result, this is not considered a viable option by U S EPA.

Alternative 4

Capping: This alternative includes placing a barrier over the contamination in addition to the Natural Attenuation and Institutional Controls alternative. Capping incorporates placing a liner over the existing contamination and layering different types of soil over the liner The cap will provide a protective barrier against direct exposure, but will not remove the source areas of contamination of lead PCBs etc. in the soil that may impact future groundwater contamination Therefore, this is not considered a viable option by U.S. EPA

Alternative 5

Phytoremediation: Phytoremediation uses plants that absorb hazardous metals. When the plants are mature they are harvested, removing the absorbed hazardous contamination thereby cleaning the soil. The harvested plants are burned and their ashes are disposed as hazardous material. However, phytoremediation is only effective up to a 1 foot depth for lead contamination. This is not considered a viable option by U.S EPA because lead contamination extends deeper than one foot

Alternative 6

In-Situ Stabilization: The In-situ Stabilization Alternative involves introducing a stabilization agent like cement, into contaminated soil and mixing them. This technology will control metal contamination but would only be useful after VOC contamination has been remediated This technology is not considered a viable option by U S EPA

Alternative 7

Soil Vapor Extraction and Stabilization Soil vapor extraction (SVE) is a technique where air is pumped through horizontal pipes in the contaminated area and used to extract VOC vapors The extracted VOC vapors are then sent through ganular activated carbon (GAC) to strip it of the VOCs GAC is a filtration process that uses carbon to absorb VOCs from air that passes through it. SVE is applicable only in the source/fill area and would be followed by In-situ Stabilization to remediate metal contamination Due to the small area of source/fill, SVE is not a considered a viable option by U S EPA

Next Steps

The U S EPA recognizes that groundwater and sediment contamination is present at the Vacant Lot site. However the sources of this contamination are not fully known The U.S. EPA will not address the cleanup of ground water and sediment until further studies to identify the location of the sources have been completed Conducting cleanup operations of the groundwater and sediment contamination at this time would not eliminate the threat to human health and the environment because the sources of the contamination would remain.

U S EPA will hold a public meeting to discuss the cleanup alternatives for the Vacant Lot site The meeting will be held from 7 p.m. to 9 p.m. on Wednesday, November 12, 1997, at the North Chicago Public Library, 2100 Argonne Drive, in North Chicago, Illinois

U S EPA will accept and consider all comments received during a 30-day public comment period from November 3 1997 to December 3, 1997 before developing a final site cleanup plan. After reviewing all comments received a cleanup plan will be described in a final decision document that will be available in the information repository

After U.S. EPA selects a final cleanup plan for the Vacant Lot site, it will meet with the **Potentially Responsible Parties (PRPs)** believed to be responsible for the site contamination and request that they conduct and fund the site cleanup activities Following negotiations with the PRPs, the cleanup plan will be designed and implemented, either by U.S. EPA, or by the PRPs under the oversight of U.S EPA If the PRPs are unable or unwilling to negotiate an agreement with U S EPA to carry out the cleanup plan U S EPA will re-evaluate its legal and funding options under Superfund.

Glossary

Lead is a naturally occurring substance found in small amounts in the earth's crust. It is most harmful to children under 6 years of age because their body systems are rapidly developing, and they have increased exposure due to frequent hand to mouth contact. Adults would not be expected to receive significant exposures at this site since lead is not absorbed through the skin. Lead poisoning can result in problems to the nervous system.

Polychlorinated biphenyls (PCBs) are a family of organic (carbon-containing) compounds that are used to manufacture products such as carbonless paper, adhesives, caulking compounds, and lubricants; and as insulators and coolants in electrical transformers. PCBs are extremely persistent in the environment; they do not break down into less harmful chemicals over a long period of time. PCBs may enter the food chain and be consumed by humans. If ingested, they are stored in the fatty tissues of animals and humans, and are not excreted with normal body waste. These compounds have no smell or taste and exist as either oily liquids or solids. Health effects that may result from exposure to PCBs include skin irritations (rashes and acne) and irritation to the nose and lungs. Long-term exposure to PCBs can cause liver damage and has been shown to cause cancer in laboratory animals.

Polynuclear aromatic hydrocarbons (PAHs) are a group of semi-volatile compounds that are formed as a result of the incomplete combustion of hydrocarbons. PAHs occur commonly in the environment, originating from both natural and man-made sources; they are often formed as a by-product of plastics, coal, oil, garbage, or other organic substances. Some PAHs are highly toxic and may cause some forms of cancer.

Potentially Responsible Parties (PRPs) are any individuals or companies - including owners, operators, transporters or generators - potentially responsible for, or contributing to a spill or other contamination. Whenever possible, through administrative and legal actions, PRPs are required to cleanup hazardous sites the have contaminated.

Superfund is the Federal program that operates under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This law authorizes the Federal government to respond directly to releases (or threatened releases) of hazardous substances that may endanger public health, welfare, or the environment. U.S. EPA is responsible for managing Superfund.

Volatile organic compounds (VOCs) are a type of organic compound that tend to change from a liquid to a gas at relatively low temperatures when exposed to air. As a result of this tendency, VOCs disappear more rapidly from surface water than from ground water. Since ground water does not usually come in contact with air, VOCs are not easily released and can be present in ground water that is being used for drinking water, posing a threat to human health. Some VOCs are believed to cause cancer in humans.

Use This Space to Write Your Comments

Your input on the U.S. EPA's recommended cleanup alternative for the Vacant Lot site is important. Public comments will assist the U.S. EPA in selecting the final cleanup plan.

You may use the space below to write your comments about the U.S. EPA's recommended alternative. Comments must be post marked by December 3, [illegible]. If you have questions about the comment period, contact Noemi Emeric at (312) 886-0995, or via E-mail at: emeric.noemi@epamail.epa.gov.

Name _____

Address _____

City _____

State _____ Zip _____

VACANT LOT SITE
PUBLIC COMMENT SHEET

Detach this page fold on dashed lines staple stamp and mail

Name _____

Address _____

City _____

State _____ Zip _____

Place Stamp Here

First Class

Noemi Emeric
Community Involvement Coordinator
U S. EPA Region 5
Office of Public Affairs (P-J19)
77 West Jackson Boulevard
Chicago, IL 60604

SUMMARY OF ALTERNATIVES
VACANT LOT SITE

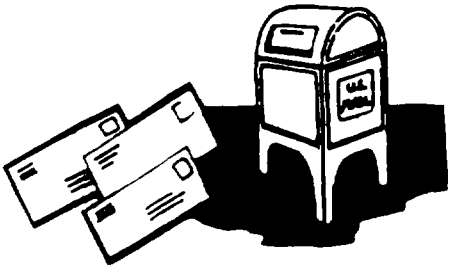
Alternative	Description	Effectiveness	Implementability	Cost
Excavation and Disposal	Excavate contaminated soil for off-site disposal at an approved facility	☻	☻	☻
No Action	Leave the site as it currently exists	☹	☻	☻
Natural Attenuation and Institutional Controls	Natural breakdown of chemicals over time. It requires the addition of security fence and no trespassing signs, and may limit the possible future uses of the property	☹	☻	☻
Capping	Build a physical barrier over the existing contamination to prevent direct contact to people	☹	☻	☻
Phytoremedation	Plant vegetation that absorbs the hazardous components	☹	☹	☹
In-Situ Stabilization	Add a stabilizing agent, such as cement	☻	☺	☹
Soil Vapor Extraction and Stabilization	Pump air through soil to extract the VOCs trapped in the ground	☻	☺	☺

Key: ☻ Meets Criteria
☺ Partially Meets Criteria
☹ Does Not Meet Criteria

MAILING LIST

If you did not receive this fact sheet in the mail, you are not on U.S. EPA's mailing list for the Vacant Lot Site. To add your name to the list to receive information concerning the site, please fill out this form, detach, and mail to:

Noemi Emeric, Community Involvement Coordinator
U.S. EPA Region 5, Office of Public Affairs (P-19J)
77 West Jackson Boulevard
Chicago, IL 60604



Name _____

Affiliation _____

Street Address _____

City, State _____ Zip _____

FOR MORE INFORMATION

The EE/CA Report and other site-related documents are contained in the Administrative Record File. The Administrative Record is available for review at U.S. EPA, Region 5 office, in Chicago, Illinois, and at the local Information Repository. The local Information Repository has been established at:

North Chicago Public Library
2100 North Lewis Avenue
North Chicago, Illinois 60064
(847) 689-2325

For additional information about this site, you may contact the following U.S. EPA representatives:

Noemi Emeric
Community Involvement Coordinator
Office of Public Affairs (P-19J)
U.S. EPA, Region 5
77 West Jackson Boulevard
Chicago, IL 60604
(312) 886-0995
e-mail: emeric.noemi@epamail.epa.gov

John O'Grady
Removal Project Manager
Superfund Division (SR-6J)
U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604
(312) 886-1477
e-mail: ogrady.john@epamail.epa.gov

U.S. Environmental Protection Agency
Region 5, Office of Public Affairs (P-19J)
77 West Jackson Boulevard
Chicago, IL 60604-3590

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